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Serial No.: 10/759,727
Office Action dated: 02/24/09
Response dated: 05/26/09

PATENT
PD030019

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Listing and Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for controlling a supply voltage of a light source, the light source being arranged in one of a first circuit configuration having an associated first reference voltage level and a second circuit configuration having an associated second reference voltage level, the method comprising the steps of:

gradually changing the supply voltage into a direction of the first reference voltage level;

measuring light emission of the light source while gradually changing the supply voltage into the direction of the first reference voltage level;

if no light emission is measured during the measuring step, determining that the light source is arranged in the first circuit configuration and controlling the supply voltage after the first reference voltage level has been reached; and

if a light emission is measured during the measuring step, determining that the light source is arranged in the second circuit configuration and gradually changing the supply voltage into a direction of the second reference voltage level and controlling the supply voltage after the second reference voltage level has been reached and the first circuit configuration includes a PNP type circuit configuration and the second circuit configuration includes an NPN type circuit configuration.

2. (Cancelled)

3. (Previously Presented) The method according to claim 1, wherein the measuring step is performed using a photodiode.

4. (Cancelled)

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5. (Currently Amended) An electronic circuit for controlling a supply voltage of a light source, the light source being arranged in one of a first circuit configuration having an associated first reference voltage level and a second circuit configuration having an associated second reference voltage level, the electronic circuit comprising:

means for gradually changing the supply voltage into a direction of the first reference voltage level;

means for detecting light emission of the light source while the supply voltage is gradually changed into the direction of the first reference voltage level;

means for gradually changing the supply voltage into a direction of the second reference voltage level if a light emission of the light source is detected while the supply voltage is gradually changed into the direction of the first reference voltage level; and

means for determining that the light source is arranged in the first circuit configuration if no light emission of the light source is detected while the supply voltage is gradually changed into the direction of the first reference voltage level, and for determining that the light source is arranged in the second circuit configuration if the light emission of the light source is detected while the supply voltage is gradually changed into the direction of the first reference voltage level and the first circuit configuration includes a PNP type circuit configuration and the second circuit configuration includes an NPN type circuit configuration.

6. (Cancelled)

7. (Previously Presented) The electronic circuit according to claim 5, wherein the light source comprises a laser diode.

8. (Cancelled)

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9. (Previously Presented) An optical device, comprising:
means for gradually changing a supply voltage of a light source of the optical device into a direction of a reference voltage level;
means for detecting light emission of the light source while the supply voltage is gradually changed into the direction of the reference voltage level; and
means for determining that the light source is arranged in a first circuit configuration if no light emission of the light source is detected while the supply voltage is gradually changed into the direction of the reference voltage level, and for determining that the light source is arranged in a second circuit configuration different from the first circuit configuration if the light emission of the light source is detected while the supply voltage is gradually changed into the direction of the reference voltage level.

10. (Previously Presented) A method for automatically adapting a circuit to a light source, such as a laser diode, for protecting the light source against application of a wrong supply voltage and supply current respectively, the light source being arranged in a first circuit configuration having an associated first reference voltage level or the light source being arranged in an alternative second circuit configuration having an associated alternative second reference voltage level, the method comprising:

a first step of performing an active off phase with a first safety circuit and two current sources of different polarity by generating an initialisation pulse in the first safety circuit when a power supply voltage is applied for providing a signal for driving a current provided by one of the current sources through the output to which one of the light sources is applied and for selecting a control direction of a comparator according to the polarity of the selected current source, and wherein said signal for driving and selecting becomes changed by said first safety circuit as soon as a photo detector applied to said first safety circuit detects light emitted by the applied light source to control said light source in said active off phase for detecting the circuit configuration of the light source and adapting the control direction of the comparator according to the circuit configuration of the light source connected to the circuit;

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a second step of performing with a second safety circuit a start up phase for checking whether the active off phase to control said light source in an off state has been performed, switching off the current source and for providing an enable signal if said light source being in an off state or a switching on of the light source is requested and said light source being in an off state and wherein said enable signal connects the output of the comparator to the output of the circuit connected with said light source; and

a third step of performing a control operation of the light source with said comparator by comparing a signal provided by said photo detector with a reference signal connected to said comparator.

11. (Previously Presented) The method according to claim 1, wherein the light source comprises a laser diode.

12. (Previously Presented) The electronic circuit according to claim 5, wherein the means for detecting light emission of the light source comprises a photodiode.

13. (Previously Presented) The optical device according to claim 9, wherein the first circuit configuration includes a PNP type circuit configuration and the second circuit configuration includes an NPN type circuit configuration.

14. (Previously Presented) The optical device according to claim 9, wherein the light source comprises a laser diode.

15. (Previously Presented) The optical device according to claim 9, wherein the means for detecting light emission of the light source comprises a photodiode.

16. (Previously Presented) The optical device according to claim 9, wherein the optical device is a DVD player.

17. (Previously Presented) The optical device according to claim 9, wherein the optical device is a CD player.

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18. (Previously Presented) A method for operating an optical device, the method comprising the steps of:

gradually changing a supply voltage of a light source of the optical device into a direction of a reference voltage level;

measuring light emission of the light source while gradually changing the supply voltage into the direction of the reference voltage level;

if no light emission is measured during the measuring step, determining that the light source is arranged in a first circuit configuration; and

if a light emission is measured during the measuring step, determining that the light source is arranged in a second circuit configuration different from the first circuit configuration.

19. (Previously Presented) The method according to claim 18, wherein the optical device is a DVD player.

20. (Previously Presented) The method according to claim 18, wherein the optical device is a CD player.

21. (Previously Presented) The method according to claim 18, wherein the first circuit configuration includes a PNP type circuit configuration and the second circuit configuration includes an NPN type circuit configuration.

22. (Previously Presented) The method according to claim 18, wherein the light source comprises a laser diode.